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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,347	02/06/2004	Toshihiro Sawamoto	9319S-000665	5263
27572	7590	10/05/2005	EXAMINER	
HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 828 BLOOMFIELD HILLS, MI 48303			SOWARD, IDA M	
			ART UNIT	PAPER NUMBER
			2822	

DATE MAILED: 10/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/774,347

Applicant(s).

SAWAMOTO ET AL.

Examiner

Ida M. Soward

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 14-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 10, 12 and 13 is/are rejected.
- 7) ☒ Claim(s) 2, 4, 6-11 and 13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2-6-04, 7-29-04, 3-4-05, 3-7-05, 4-14-05, 5-31-05, 7-28-05
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

This Office Action is in response to the election filed July 26, 2005.

Election/Restrictions

Applicant's election with traverse of Group I, claims 1-13 in the reply filed on July 26, 2005 is acknowledged. The traversal is on the ground(s) that all groups of claims are sufficiently related to each other that an undue burden would not be placed upon the Examiner by maintaining all groups in a single application. This is not found persuasive because the method of manufacturing a semiconductor device require different process in the search and class.

The requirement is still deemed proper and is therefore made FINAL.

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

The U.S. Patent Document 6,120,855 was not considered because the document has been withdrawn.

There is a missing Information Disclosure Statement in the papers filed June 24, 2004.

Claim Objections

Claim 2 is objected to because of the following informalities: package should have been between “semiconductor” and “are” in line 3, page 36.

Claim 10 is objected to because of the following informalities: package should have been between “semiconductor” and “are” in line 5, page 38.

Claim 13 is objected to because of the following informalities: package should have been between “semiconductor” and “are” in line 5, page 39.

Appropriate correction is required.

Claim 10 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 1 and 10 are identical.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 5, 10 and 12-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Egawa (US 6,229,215 B1).

In regard to claims 1 and 10, Egawa teaches a semiconductor device, comprising: a first semiconductor package 17 in which a first semiconductor chip is mounted; and a second semiconductor package 30 (left) that is supported on the first semiconductor package 17 such that ends of the second semiconductor package 30 (left) are arranged above the first semiconductor chip 17 (Figure 7, column 7, lines 7-47).

In regard to claim 2, Egawa teaches a third semiconductor package 30 (right) that is supported on the first semiconductor 17 package such that ends of the third semiconductor 30 (right) are arranged above the first semiconductor chip 17 (Figure 7, column 7, lines 7-47).

In regard to claim 3, Egawa teaches the second semiconductor package 30 (left) and the third semiconductor package 30 (right) separated from each other (Figure 7, column 7, lines 7-47).

In regard to claim 5, Egawa teaches a gap 31 between the second semiconductor package 30 (left) and the third semiconductor package 30 (right) filled with resin 33 (Figure 7, columns 5 and 7, lines 42-65 and 7-47, respectively).

In regard to claim 12, Egawa teaches an electronic device, comprising: a first package 17 in which an electronic component is mounted; and a second package 30 (left) that is supported on the first package 17 such that ends of the second package 30 (left) are arranged above the electronic component (Figure 7, column 7, lines 7-47).

In regard to claim 13, Egawa teaches an electronic equipment, comprising: a first semiconductor package 17 in which a semiconductor chip is mounted; a second

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semiconductor package 30 (left) that is supported on the first semiconductor package 17 such that ends of the second semiconductor package 30 (left) are arranged above the semiconductor chip; and a motherboard 50 on which the second semiconductor package 30 (left) is mounted (Figure 7, column 7, lines 7-47).

Allowable Subject Matter

Claims 4, 6-9 and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of the art with respect to semiconductor devices:

Chang (US 2003/0127719 A1)

Goller et al. (US 6,710,455 B2)

Ho et al. (US 2002/0163075 A1)

Kimura (US 6,600,221 B2)

Mess et al. (US 2001/0026013 A1)

Tu et al. (US 2002/0096753 A1)

Wu et al. (US 6,590,281 B2).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ida M. Soward whose telephone number is 571-272-

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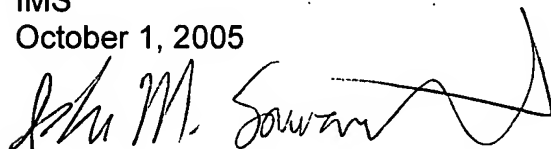
1845. The examiner can normally be reached on Monday - Thursday 6:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on 571-272-1852. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

IMS

October 1, 2005


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